

United States
Department Of
Agriculture

Forest
Service

Shasta-Trinity
National Forests

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Subject: Biological Evaluation of Mycorrhizal Conditions for
Vegetation Management Analysis, McCloud RD (FPM Report N91-15)

To: District Ranger, McCloud RD

On October 1, 1991 Linda Haugen, Plant Pathologist, and I visited with Cindy Diaz, Reforestation Forester, McCloud Ranger District, to examine areas being considered for vegetation management. These areas are generally plantations up to 10 years old that have been regenerated mainly with ponderosa pine. Some Douglas-fir, white fir, Jeffrey pine, and incense-cedar have also been planted in some of the plantations.

The District is initiating an analysis of vegetation management practices in these areas and some questions and concerns have arisen from interested public and District personnel. Some of the questions that have been asked include the following. Are current vegetation management practices influencing the level of mycorrhizae in plantations, and is that affecting tree growth? Do specific vegetation management practices influence the mycorrhizal hyphal network and, therefore, adversely affect tree growth? Do vegetation management practices influence the occurrence of wild mushroom populations that are gathered by the public? Do herbicides proposed for use accumulate in the fruiting bodies of edible wild mushrooms?

We dug up the roots of several seedlings in two different units to look for mycorrhizae. We had no difficulty finding mycorrhizal roots on any of the seedlings, but there was no attempt to quantify. Our purpose was to demonstrate their existence and to show Cindy what they looked like under forested conditions.

The questions being asked as part of the analysis do not have readily available answers. Some research has been done in these areas, but it is limited and often done under different conditions, hosts, and sites. We in FPM, along with the District, are trying to develop literature sources on this research and determine what is pertinent to the analysis area. Much of the current information may be based on personal communications rather than published studies at this time. As we develop this information, we will forward it to the District for consideration and inclusion in the analysis where appropriate.

/s/ Gregg DeNitto

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